

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

YELLOWSTONE NATIONAL PARK

YELLOWSTONE PARK, WYO.

OF THE SUPERINTENDENT

Copy from

FILE 143

MONTHLY REPORT

for

M a r c h,

1 9 2 0.

MONTHLY REPORT,

1920.

M A R C H

TABLE OF CONTENTS.

	Page.
I. General Conditions.....	1
II. Personnel.....	3
III. Work Completed.....	6
IV. Work in Progress.....	6
V. Work Begun.....	7
VI. Plans or Proposed Work.....	7
VII. Policies.....	7
VIII. Cost of Operation.....	7
IX. Other Matters of Interest....	8
Wild Animals.....	8
Birds.....	11
Fishes.....	12
Seasonal Changes.....	
Arrests & Violations of Law	12
Forest Fires.....	
Accidents and Casualties...	12
Medical Services.....	
Natural Phenomena.....	
Special Visitors.....	12
Motion Pictures.....	13
Miscellaneous.....	13
X. Receipts and Remittances.....	13

8

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
YELLOWSTONE NATIONAL PARK
YELLOWSTONE PARK, WYO.

Lundell

OFFICE OF THE SUPERINTENDENT

April 9, 1920.

Dear Sir:

The following is my report on conditions in Yellowstone National Park, and on the operation of the park, for the month of March, 1920:

GENERAL CONDITIONS:

The most remarkable feature of the month's weather was the cold wave of the 5th-6th, with a minimum temperature of 25 degrees below zero on the morning of the 6th. This is the lowest March temperature on record during 38 years; the previous lowest, -24 degrees, was recorded in 1906. The temperature as a whole averaged 3 degrees below normal.

The total snowfall was 20.0 inches, equal to 1.95 inches of water, or a little more snow than for the average March, but a deficiency of .23 inches of water. There were 17 days with a measurable amount of snowfall, and the record shows but one March with a greater number of days with snow, that being 18 days in 1907. The depth of snow on the ground at the end of the month, 18.8 inches, is the greatest in the March record except 24.5 inches in 1917.

The total wind movement was slightly below normal, but the maximum velocity of 40 miles per hour recorded on the 30th has been exceeded but once in March, but it has been equalled three times.

The sunshine was deficient, being only 45% of the possible.

The monthly Meteorological Summary, furnished by the local U. S. Weather Bureau, is inclosed.

As a whole, the weather conditions that prevailed throughout the month were not favorable to the wild animals, and the feeding of hay had to be kept up throughout the month.

The following shows the depth of snow at various stations in the park at the end of March. For comparison,

column 2 gives the depth of snow at some of the stations on January 31, and column 3 gives the same data for March 31, 1917, a season that was late and when there was much difficulty in opening the roads in time for the beginning of the tourist season. It will be seen that the depth of snow increased remarkably between January 31 and March 31, but it happened that several inches of this fell during the last days in March and was quite light when it was measured, and this has settled a lot since the end of March. These figures indicate that the opening of the roads for tourist travel may be expensive and difficult, although this depends largely upon the conditions in April:

	(1)	(2)	(3)
	3-31-20	1-31-20	3-31-17
Lake Ranger Station	47 64 in.	34.5 in.	50 in.
Snake River Ranger Station	73 "	49 "	
Sylvan Pass Ranger Station	67 "	37 "	
Soda Butte Ranger Station	20 32 "		22 in.
Tower Falls Ranger Station	10 29 "	20 in.	35 "
Buffalo Park	18 36 "	14.5 "	
Canyon Ranger Station	48 70 "		62 in.
Norris Ranger Station	48 54 "	20 in.	70 in.
Upper Basin Ranger Station	36 70 "		45 "
Riverside Ranger Station	26 50 "	30 in.	46 "
Yellowstone	54 "		48 "
Gallatin Ranger Station	30 48 "		69 "
Mammoth	19 "	8.6 in.	24.5 "
Gardiner Ranger Station	00 "		

Slough Creek

34
Travel.

The road from Gardiner to Headquarters was open for motor travel throughout the month, and the road from Headquarters to the northeast corner (Cooke City entrance) was open for passage of light vehicles drawn by horses throughout the month. Otherwise the roads were blocked with snow to an extent that they could not be used and travel was practicable only on skis or snowshoes. Eleven people entered the park at the northern entrance, but these were principally on business to Mammoth and could hardly be classed as tourists. The Chief Ranger's travel report is inclosed herewith.

Labor and supply market.

A few laborers and carpenters required by the Transportation Company and the Camps Company were secured in the immediate vicinity at the same wages as paid last year.

About the only supplies needed was hay for feeding wild animals, which was delivered under a previous contract from Yakima, Washington, costing for baled alfalfa hay of first quality \$31.21 per ton delivered at Gardiner, Montana. Also a carload of coal for general use at Headquarters, which was purchased under circular proposal for \$3.95 per ton at the mine at Bridger, Montana, which the bidder stated was sold at a loss to him, but was the price fixed by the Government.

II. PERSONNEL.

Employees.

On March 1st there were 55 employees on duty under this office in the park, and no change in number was made during the month of March. Below is given a list of the number of employees serving under appointment, with a general statement of the kind of work performed by each class:

<u>No.</u>	<u>Class.</u>	<u>Kind of work performed.</u>
1	Asst. Engineer	Office engineering.
1	Blacksmith	General blacksmith work. Shoeing draft animals and ranger saddle horses, and overhauling tools and equipment.
5	Clerks	1 disbursing agent and purchasing clerk; 1 on orders, proposals and vouchers; 1 stenographer, files and revenues; 1 on payrolls and timekeeping; 1 on cost accounting and in charge of storehouse. At odd moments clerks assisted Ranger Skinner in indexing library, and tabulating notes on wild animals, birds, and other data relating to the establishment of the proposed museum.
1	Steward and Master of Transportation.	In charge of all transportation including shops and garage.
3	Electricians	1 in charge of power plant who operated and did necessary line work; 2 assistants who operated regular shifts including Sundays.

No.	Class.	Kind of work performed.
1	Buffalo Keeper	In charge of tame buffalo herd, feeding and caring for them.
1	Asst. Bflo. Keeper	Assistant to Buffalo Keeper. <i>Vacant to Apr 30</i>
1	Foreman	In charge of stables, and spent most of month in shop repairing tents and harness for next season's work.
1	Gen. Foreman	In charge construction work. Worked all month repairing and remodeling buildings at Headquarters.
1	Handyman	Worked in storehouse issuing supplies to families and rangers, corrals, etc., and sorting over, moving and straightening up storehouses. <i>Also helped haul supplies from RR</i>
1	Lineman	In charge of telephone system, did emergency work and installed instruments. Also ran light truck hauling freight or express from Railroad to Headquarters when not otherwise engaged.
1	Watchman	Watchman at Headquarters. Made hourly patrols for fire at night, and kept fires up and cleaned up Headquarters building. Worked daily including Sundays.
1	Master Mechanic	<i>1-17m</i> On regular annual leave of absence.
1	Automobile Mechanic	Worked on automobile and truck repairs.
1	Plumber	In charge of general plumbing at Headquarters. <i>Did general repair work on plumbing</i>
1	Painter	Renovated employees quarters at Headquarters. <i>+ painting motor cars.</i>
1	Telegraph Operator	Sent and received Western Union telegrams; also put in regular shift as a switchboard operator, seven days a week.
1	Telephone Operator	Operated telephone switchboard.
1	Laborer	Miscellaneous work at headquarters. On leave 3 (noon) to 31 (noon).

<u>No.</u>	<u>Class.</u>	<u>Kind of work performed.</u>
1	Chief Ranger	In charge of ranger force.
3	Asst. Chief Rangers	Assisting Chief Ranger. One in charge of southern district; two assisting with feeding wild animals.
6	1st class park rangers	In charge of ranger stations, on duty in Chief Ranger's Office, patrol duty in the park protecting wild animals, and feeding wild animals.
18	Park Rangers	Ditto. Also one on duty protecting wild animals in Gallatin Game Preserve adjoining the park on the north.

until about middle of month

In addition to the regular employees listed above, the following were employed temporarily:

	<u>On Mar. 1.</u>	<u>On Mar. 31.</u>
Enginemman, assisting with repairs to motor vehicles,	1	1
Teamster, general work at Headquarters, in stables, hauling supplies, etc.,	<u>1</u>	<u>1</u>
Totals,	<u>2</u>	<u>2</u>

Laborer at Buff Farm assisting with Buffalo Apr 5-30
Leaves of absence.

During March annual leaves were granted as follows:

F. J. Winess, park ranger, 1st to 6th; 6 days.
 B. L. Stinnett, master mechanic, 1st to 22nd; 19 days.
 W. Madison, laborer, 3 (noon) to 31 (noon); 24 days.
 A. W. Burney, Asst. Engineer, 1st to 13th; 12 days.
 L. M. Mac Rae, Clerk, 1st to 9th; 8 days.
 A. R. Edwin, Clerk, 15th to 27th; 12 days.
 W. H. Pendell, Clerk, 16th to 20th; 5 days.
 C. O. Leuer, Clerk, 6th and 13th; 2 days.
 G. T. Dustman, Park Ranger, 27th to 31st; 4 days.
 Chester A. Lindsley, Assistant Supt., 27th to 31st; 4 days.
 B. L. Stinnett, Master Mechanic, (without pay) 23rd to 31st; 9 days.

Appointments.

John Delmar, Steward & Master of Transportation, \$1680 per annum, effective March 16, 1920, terminating temporary appointment in same capacity.

Separations.

There were no separations from the service during the month.

Vacancies.

1 Assistant Chief Ranger.

III. WORK COMPLETED.

(a) Construction of Physical Improvements.

Inasmuch as everything was on a winter basis, no construction work was engaged in during the month.

(b) Maintenance and Repair of Physical Improvements.

The only work done on the roads during the month was slight repairs on the Mammoth-Gardiner road, clearing out fallen rocks and draining off water from melting snows.

(c) Improvements by Concessioners.

No improvements were completed by concessioners during the month, and but little was in progress.

(d) Service to the Public.

Due to the fact that there were no visitors of any consequence, this feature was unimportant.

IV. WORK IN PROGRESS.

Mr. W. M. Nichols, of the Yellowstone Park Transportation Company, visited the park and brought with him a foreman mechanic on March 6th, and on March 16th several mechanics began work for this company, moving their automobile repair shop to new quarters and beginning the work of overhauling motor vehicles on a large scale. This work is still in progress and will be until the opening of the park season.

The Yellowstone Park Hotel Company did nothing except to get in a few carloads of coal for next summer's use.

The Yellowstone Park Camps Company also increased its force at Mammoth Camp, the latter part of March, and have several men engaged in making improvements in the camp, tearing down the present tents, which are to be moved to the Lake Camp, which will be rebuilt this spring, and replacing them with new tents with asbestos tops, and rearranging them to conform to a general plan for a new camp at Mammoth.

Our shop force was engaged in overhauling trucks and motor cars, keeping in repair those in use for hauling hay for elk which was quite an item, as the roads were bad and the work was hard on the trucks. The work in the shops was handicapped again by the absence of the shop foreman and one of the mechanics much of the time on account of sickness.

The stable foreman finished overhauling the harness, and has since been engaged in repairing tents for use in the construction work in the park. He has made good progress, but there is much of this work yet to be accomplished.

V. WORK BEGUN.

No new work was begun during the month, except the repairs of a small frame house at Headquarters to furnish quarters for employees. A small addition is being built to house a bath tub and toilet which are being put in by regular employees with but very little additional cost for supplies which were not already on hand. This work is still in progress.

VI. PLANS OR PROPOSED WORK.

In addition to continuing the work in progress as noted above, it is proposed during April to engage a small crew and send an engineer and foreman to take charge, to build a timber and stone crib to protect a bridge across Elk Fork in the East Forest Reserve against high water. This work is provided for by a special deficiency appropriation of \$3000, and it seems desirable to get it done before high water which might destroy the abutments of the bridge. The details of how this work is to be accomplished are now being worked out.

VII. POLICIES.

No new policies were adopted during the month.

VIII. COST OF OPERATION.

The operating costs consisted principally of salaries of regular employees and the costs incident to feeding the wild animals, as are shown on the cost reports for March. These reports are being mailed to Superintendent Albright at Berkeley, California, for his perusal before they are transmitted to the Service.

The ranger force made regular patrols for protection of wild animals, patrolled the game preserve in the State of Montana located west of the Yellowstone River outside of the park in the Gallatin Forest, and assisted in the care of the buffalo herd. Their principal and most important work, how-

ever, consisted in the special care and feeding of the elk, deer, antelope and mountain sheep near the northern entrance of the park; disposing of those that died; superintending the capture of those elk that were shipped to other parks and ranges, and feeding the surplus horses now being wintered on hay at Headquarters. Considerable time was also devoted by the ranger force assisting the representative of the Chester-Outing Moving Picture Company of New York in getting pictures of wild animals and the tame buffalo in the vicinity of Headquarters.

Assistant Chief Ranger Smith has been in charge of the special work at Gardiner since March 20th.

Ranger Skimmer made good progress in his work of collecting data for our library and museum, and was assisted in cataloging and transcribing of his notes on animals and birds by clerks in the office when their services could be spared from other work.

The buffalo keeper and his assistant were engaged in caring for the tame buffalo herd at the buffalo farm and on Slough Creek. The hay supply was exhausted on Slough Creek on March 25th, and with the help of five rangers, the steers and bulls of the herd that had been fed there were brought in to Headquarters where hay is being fed to carry them through the winter.

IX. OTHER MATTERS OF INTEREST.

Wild animals.

While the weather which was slightly more severe than normal in March was not especially encouraging in view of the run down condition of our animals, we were able to continue the feeding of hay to the elk, deer, antelope and mountain sheep in the immediate vicinity of Headquarters and Gardiner, and the situation has not as yet become serious. If warm weather comes by the middle of the month so the animals can get subsistence from the range, the loss will not be great, and since April 1st the conditions have been encouraging.

During March 185 tons of hay were fed near Gardiner to about 2000 elk, 250 antelope, 200 deer, and 11 mountain sheep. At Headquarters 31 tons were fed to about 800 elk and 50 deer. As will be noted, the number remaining on the feed grounds at Headquarters was about the same as for February, but at Gardiner it was only about half the same number, as many of the stronger animals went back to the hills and did

not come down again.

Buffalo, - wild herd. There were no reports received of wild buffalo during the month, and their range was not visited.

Buffalo, - tame herd. There were 407 animals in this herd on March 1st, and there was one yearling bull found dead at the mouth of Blacktail Deer Creek on Yellowstone River during the month, leaving a total of 406 at present. The body and skin were so badly mangled by coyotes as to be worthless. The cows in the main herd are showing signs of calving soon. This herd was divided and part of them fed at the buffalo farm and part at Slough Creek until March 25th, when the hay was all gone at Slough Creek, and the animals that had been fed there were taken to the farm, where the herd was again divided, and 127 of the bulls and steers were brought to Headquarters where hay that was in storage for other work has since been fed. This step was necessary in order to have the supply of hay at the farm hold out for the cows and young animals which are still being fed there. There are now 225 animals at the farm, and the balance of the herd - a few old bulls - are scattered in various places, namely 7 bulls at Tower Falls, 6 on Slough Creek, 13 along the Yellowstone River, 3 on Lamar River, and the balance are mostly along the road between Headquarters and the farm. Some of these were left during the drive to Mammoth, which took two days due to deep snow, took the services of the keeper and five rangers, and proved to be a most arduous task. One horse had to be killed on account of a broken leg, due to the deep drifts which were encountered. It has required 7 tons of hay to feed this part of the herd since they were brought it, and 79 tons were fed at Slough Creek and the Buffalo Farm during the month.

Bears. Bear tracks were seen at Headquarters on March 23rd, and two bears were seen outside of the park, near Gardiner, Montana. No signs of bears have been reported from the upper park.

Deer. About 250 deer were fed during the month, but many did not come in for hay. Two dead ones were found near the feeding grounds at Gardiner, and two died near Headquarters, all apparently from natural causes. The deer are still looking fairly well, but they, like the elk, are beginning to show the effects of the long winter.

Antelope. The antelope seemed to be standing the severe winter as well, if not better, than the elk and deer. About 250 were fed, a few still ranged outside of the park near Electric, Montana. One died near Gardiner from natural causes.

Elk. The elk are holding their own fully as well as could be expected under the severe winter conditions of March, though they are showing the effects of the long hard winter with insufficient food, and generally speaking they are in poor condition as compared with normal winters. The feeding was kept up as seemed necessary, in proportion to the numbers that frequented the vicinity of the feed grounds, with due consideration to the conservation of hay that it might last through the feeding season. 185 tons were fed at Gardiner and 31 tons at Headquarters, mostly to the elk, the number taking the hay varying during the month from 1500 to 3000. A total of 49 elk, cows and calves died at the Mammoth feeding grounds during March, and 223, also mostly cows and calves, died at the Gardiner feeding grounds. Those that remained further up on the range seemed to have fared better, as but few dead ones are reported. This is probably due to the fact that only the strong ones remained there and not to the supply of forage which they have had.

Reports indicate that the Gallatin herd of elk are wintering well. No reports were received of the southern herd during the month.

I am unofficially informed that the proposition of the U. S. Biological Survey and the Forest Service to assist in counting the elk herds in and adjacent to the park has been abandoned on account of the resignation of some of the officials of the Forest Service and lack of sufficient assistance to do this extra work. In the case of the northern herd, however, it is possible that the rangers of the Forest Service who have been engaged on the special work of protecting the elk outside of the park in the Absaroka National Forest, in cooperation with our park rangers, may be able to make a careful estimate of the numbers, without going to the expense of a careful count.

Shipment of elk. Ninety-eight elk, - 10 bulls and 88 cows, - all two and three-year-olds, were shipped to Jasper Park, Canada, by the Canadian Government Parks Department on March 2nd. Eleven of these died enroute. One male and one female elk were shipped by express, crated, to the Agricultural Experiment Station of the State, at Sonora, Texas, on March 28th, to replace two that died enroute on their shipment of February 2nd. Two male elk were shipped to San Antonio, Texas, on March 3rd. The advisability of shipping elk so late in the season is questionable, but is probably warranted under the unusual conditions of this season, as it may be the means of saving a few animals that might otherwise die. There are but one or two possible shipments in view.

Mountain Sheep. Eleven mountain sheep were fed

with the elk in Gardiner Canyon. They seem to be in usual good condition.

Moose. No moose were noted in reports received for the month of March.

Carnivorous Animals. Rangers Henry Anderson and Court Dewing put in most of their time during the month hunting carnivorous animals, using for the purpose firearms, traps and poison. Dewing killed 8 coyotes, 1 wolf, and 2 foxes, in the territory on the northeast section of the park. Anderson killed 1 coyote and eight wolves, (7 of them young pups taken from dens) in the Blacktail District. Ranger Harr killed two coyotes near Tower Falls. Special efforts will be made during April to locate and destroy a few more wolves that have been in evidence in the Blacktail and Tower Falls districts.

Grazing. Grass was noted to be growing in bare places at the lower altitudes on March 19th, but has not grown in sufficient amount to relieve the shortage of forage to any appreciable extent.

Birds.

Winter birds were in evidence, including ducks, crows, magpies, eagles, sparrows, Clarks crows and ouzels. There are 20 to 30 trumpeter swans wintering in the outlet of Yellowstone Lake where there is constantly open water; also 2 wintering on Lewis River near the bridge, and 2 on Bechler River. In addition to those wintering here, newcomers appeared as follows: Mallards and rosy finches, March 6th; nutterackers, March 7th; horned larks, March 12th; Birds wintering along the Gardiner River began to leave winter quarters; dippers, or water ouzels, March 3rd; Barrow golden-eye, March 10th. Migratory birds first appeared: intermediate junco, March 12th; killdeer plover, March 13th; red-wing blackbird, March 13th; pink-sided junco, March 19th; Wilson snipe, March 20th; also robin; bluebird, March 21st, became numerous five days later; red-tail hawk, March 31st.

Miscellaneous notes on park animals, indicating seasonal changes: It became noticeable on March 13th that the elk on the feeding grounds were getting fewer. On March 19th, elk horns began to fall freely. Mountain sheep began to shed their wool, March 15th. On March 12th, the horn butts on mule deer fawns began to swell; and ten days later on the old bucks. March 25th, the last mule deer cast his horns. March 17th, woodchucks came out again, after their first appearance on February 5th; ground squirrels appeared on the same date, the 17th.

Some of these seasonal movements were early, but the majority were late. Reckoning from these data the season is today ten days later than the average.

Fish.

Fishing has been good in Gardiner River below the Mammoth Hot Springs, and was enjoyed by residents.

Protection of Game.

The usual patrols were made during the month in the interests of game protection. One ranger patrolled the Gallatin Game Preserve adjoining the park on the north, just west of the Yellowstone River. Forest Rangers patrolled the Absaroka National Forest to prevent poaching among the elk that are wintering outside of the park.

Arrests and violations of the law.

No arrests were made. On two occasions evidence was noted that indicated that some of the boys living at Headquarters were making a practice of hunting elk teeth, and it even looked as if they had pulled the teeth of elk that were not dead but about to die. They were assembled and given a good lecture, and their parents notified that the boys would have to obey the park rules carefully or suffer the consequences provided by the regulations, and no further trouble was given by them.

Accidents and Casualties.

No accidents were reported during the month.

Special visitors.

The following persons visited the park on special business:

Miss Elizabeth Trischman, of the Park Curio Shop, and her father, returned to the park on March 10th, from several weeks' absence.

A post office inspector visited the park officially on March 11th.

Mr. W. M. Nichols, of the Yellowstone Park Transportation Company and Hotel Company, visited the park March 3 to 6, and made arrangements for beginning work in the Company's automobile shop. Several mechanics followed on the 16th.

Mr. Howard Hays, of the Yellowstone Park Camps Company, visited the park in connection with the development work at Mammoth Camp on March 16-17, and again on March 23-25.

Motion Pictures.

The only motion picture representative in the park during the month of March was Mr. J. A. Ramsey, representing Mr. C. L. Chester, of 120 W. 41st St., New York, who came in on the 12th and is still here. Mr. Ramsey has been engaged in getting good motion pictures of wild animals and the tame buffalo and expects to visit the geyser basins and the Grand Canyon soon. Mr. Chester's permit is not numbered.

Miscellaneous.

Entertainments. Free picture shows were held weekly, in the Post Exchange auditorium, for the benefit of park employees and the residents of Gardiner, the expenses being paid through a cooperative arrangement.

Christian Science services were held every Sunday afternoon. Regular church services were omitted during the month, as the Rev. Pritchard, who supplies them, was on vacation.

X. RECEIPTS AND REMITTANCES.

The usual report of monies collected, due and transmitted, on the regular blank forms, is inclosed herewith, together with money orders and draft for the amount remitted, - \$726.70. Please acknowledge receipt.

Cordially yours,

CHESTER A LINDSLEY

Acting Superintendent.

The Director,
National Park Service,
Department of the Interior,
Washington, D. C.

Inclosures:

CAL:JMK

U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU

Yellowstone Park, Wyo., ~~Mar~~ April 1, 1920.

WEATHER CONDITIONS-MAMMOTH HOT SPRINGS.

YELLOWSTONE PARK, WYO.

MARCH, 1920.

The most remarkable feature of the month's weather was the cold wave of the 5th-6th, with a minimum temperature of 25° below zero on the morning of the 6th. This is the lowest March temperature of record during 33 years; the previous lowest, -24°, was recorded in 1906. The temperature as a whole averaged 3° below normal.

The total snowfall was 20.0 inches, or a little more than the average March. There were 17 days with a measurable amount of snow, and the record shows but one March with a greater number of days with snow, that being 18 days in 1907.

The total wind movement was slightly below normal, but the maximum velocity of 40 miles per hour recorded on the 30th, has ~~not~~ been exceeded but once in March, but it has been equal three times.

The sunshine was deficient, being only 45% of the possible.

E. H. Fletcher,

Observer.